REMARKS

Claims 53-55 and 61-63 are pending with entry of this amendment. Claims 53-55 and 61-63 stand rejected by the Office.

Claim 53 has been amended to correct a typographical error.

Pursuant to the Office's request, Applicant has submitted a separate petition to correct the serial number of the parent application in which the instant application is claimed priority benefit.

Rejection under 35 U.S.C. § 102(b)

Claims 53-55 and 61-63 stand improperly rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,546,322 to Crutcher ("Crutcher"). First, Applicant submits Crutcher does not teach all of the subject matter recited in any of Claims 53-55 and 61-63. Second, Applicant does not understand the Office's premise that Crutcher inherently monitors the frequency or phase range which is desired for the carrier recovery so that the system switches from sweep to PLL or capture mode. Therefore, reconsideration and withdrawal of the rejection is hereby respectfully requested.

First, it appears that the Office has failed to understand the claimed subject matter. For example, Claim 53, as amended, recites, *inter alia*:

> providing a phase lock loop mode of operation to maintain frequency lock over a selected first range of frequency drift;
> providing a sweep mode of operation to step operation of said phase lock loop first range of frequency drift over a selected second range of frequency drift; and

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monitoring at least one of said phase lock loop mode of operation and said sweep mode of operation to determine a portion of said second range of frequency drift once said first range is successfully able to maintain said frequency lock

It is clear that Claim 53 requires automatic frequency compensation method using a phase lock loop mode over a first range of frequency drift. The method then provides a sweep mode of operation to step the operation of the phase lock loop mode over a second range of frequency drift. In contrast, Crutcher is clear in its non-anticipatory disclosure: "As described above, the carrier recovery PLL operates in a sweep mode. When the phase of the VCO become identical to any one of a predetermined number of preferred phases, it is desirable to cause the carrier recovery PLL to switch its mode of operation to the locked mode." *See* Crutcher, 6:6-11. It is clear that there is no disclosure or teaching in Crutcher of providing a phase lock loop mode over a first range and stepping operation of the phase lock loop mode by a sweep mode over a second range. Rather, Crutcher teaches just the opposite; Crutcher operates in a sweep mode until a preferred phase is found and operates in a locked mode once this preferred phase is found. For this reason at least, the rejection of Claim 53 under 35 U.S.C. § 102 is improper and must be withdrawn.

Further, the Office appears to admit that Crutcher fails to teach the element, as amended, of "monitoring at least one of said phase lock loop mode of operation and said sweep mode of operation to determine a portion of said second range of frequency drift

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once said first range is successfully able to maintain said frequency lock." Rather, the Office asserts that such an element is inherent in Crutcher. This is incorrect.

It is well established that for an element to be inherent **it must necessarily be present if not disclosed**. Contrary to the Office's assertion, there is no indication in Crutcher that such an element must be present, and in view of the comments above, Applicant respectfully submits that the Office has incorrectly maintained this rejection by relying on portions of Crutcher (4:22-42 and 6:23-39) that fail to disclose the subject matter recited in Claim 53.

Referencing Column 4, lines 22-42 of Crutcher, the PLL recovers a carrier signal and operates in a sweep mode allowing the respective VCO output signal to move over a range of possible frequencies or phases. Upon finding a preferred phase, the PLL enters a locked mode and the VCO maintains a fixed operational phase. This preferred phase is a single unique frequency at which the VCO seeks to maintain an operational phase.

Conversely, Claim 53, as amended, recites "monitoring at least one of said phase lock loop mode of operation and said sweep mode of operation to determine a portion of said second range of frequency drift once said first range is successfully able to maintain said frequency lock." The preferred phase disclosed in Crutcher is neither a phase lock loop mode of operation nor a sweep mode of operation as claimed, nor is it inherent that Crutcher discloses such. With further reference to column 6, lines 8-39 of Crutcher, the reference discloses performing a sweep mode operation where the VCO matches a phase

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identical to any one of a predetermined number of preferred phases at which the PLL may be locked. This is again, contrary to the subject matter recited in Claim 53. Finally, at Column 6, lines 33-39, Crutcher discloses that the PLL utilizes an adaptive filter which provides a wide bandwidth for PLL sweep mode operation and a narrow bandwidth for the PLL locked mode of operation. Crutcher reiterates what is well known in the art, that a PLL, in general, must make adjustments while in a locked state, hence the narrow bandwidth filter utilized to accommodate for such adjustments. This, however, does not and cannot support the inherency argument provided by the Office that it is inherent that Crutcher monitors at least one of the phase lock loop mode and the sweep mode of operation to determine a portion of a second range of frequency drift once the first range is successfully able to maintain said frequency lock, as required in Claim 53. Thus, for this reason as well, Applicant submits that the rejection under 35 U.S.C. § 102 premised upon Crutcher must also fail. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b) of Claim 53 is hereby respectfully solicited.

Claims 54-55 and 61-63 are dependent upon independent Claim 53. Claim 53 is in condition for allowance. Thus, the claims depending from independent Claim 53 are patentable at least by virtue of their dependence without need to resort to the additional patentable limitations contained therein. Reconsideration and withdrawal of the rejection of Claims 54-55 and 61-63 under 35 U.S.C. § 102(b) are hereby solicited.

CONCLUSION

Applicant believes that the present application is in condition for allowance and, as such, it is earnestly requested that Claims 53-55 and 61-63 be allowed to issue in a U.S. Patent.

If the Examiner has any questions relating to this response or the application in general, the Examiner is respectfully requested to contact the undersigned so that prosecution may be expedited.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to **Deposit Account No. 04-1679**.

Respectfully submitted,

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